PATENT COOPERATION TREATY

PCT

TRANSLATION INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

		gent's file refere	ence	FOR FURTHER AC	ΓΙΟΝ	See Form PCT/IPEA/416
0000054995 International application No.				International filing date	(day/month/year)	Priority date (day/month/year)
PCT/EP2004/011608			1608	15.10.2004	(aaymonini year)	23.10.2003
International Patent Classification (IPC) or national classific					a	23.10.2003
D21	H21/		on (IPC) of hat	ional Classification diri if v		
Applican BAS		ktienge:	sellsch	aft		
1.				minary examination repor ne applicant according to A		International Preliminary Examining Authority
2.	This R	EPORT consis	ts of a total of	7	sheets, including	ng this cover sheet.
3.	This re	eport is also acc	ompanied by A	NNEXES, comprising:		
	a. 🔀	(sent to th	e applicant and	to the International Bure	gu) a total of 2	sheets, as follows:
		shee shee	ts of the descrip	otion, claims and/or drawi	ngs which have been	amended and are the basis for this report and/or ule 70.16 and Section 607 of the Administrative
	sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental					
	ь. Г	Box Sent to th		Bureau only) a total of (in	dicate type and numb	er of electronic carrier(s))
	٠			2	ore type and name	
				r readable form only, as i trative Instructions).	ndicated in the Suppl	, containing a sequence listing and/or tables emental Box Relating to Sequence Listing (see
4.	This re	eport contains i	ndications relati	ing to the following items:		
	\boxtimes	Box No. I	Basis of the	e report		
		Box No. II	Priority			
		Box No. III	Non-establi	ishment of opinion with re	gard to novelty, inven	ntive step and industrial applicability
		Box No. IV	Lack of uni	ty of invention		
	\boxtimes	Box No. V	Reasoned s	•	· · ·	elty, inventive step or industrial applicability;
	\boxtimes	Box No. VI	Certain doc	cuments cited		
	\boxtimes	Box No. VII	Certain def	ects in the international ap	plication	
	\boxtimes	Box No. VIII	Certain obs	ervations on the internation	nal application	
Date of s	submiss	ion of the dema	-		ate of completion of the	his report
_ a.c 01 6		or the delik	- A A A		or completion of the	
Name and mailing address of the IPEA/EP				A	uthorized officer	
Facsimil	e No.			To	elephone No.	

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Box	No. I	Basis of the report		
1.		n regard to the language, this report is based on the interna cated under this item.	tional application in the language in	which it was filed, unless otherwise
		This report is based on translations from the original lang which is the language of a translation furnished for the pu		,
		international search (Rule 12.3 and 23.1(b))		
		publication of the international application (Rule 12	2.4)	
		international preliminary examination (Rule 55.2 at	nd/or 55.3)	
2.	rece	n regard to the elements of the international application, the iving Office in response to an invitation under Article 14 report):		v
		the international application as originally filed/furnished		
	\boxtimes	the description:		
		pages		as originally filed/furnished
		pages*		
		pages*	received by this Authority on	
	\boxtimes	the claims:		
		nos.		as originally filed/furnished
		nos.*		
		nos.* 1-11		13.05.2005 with letter
		nos.*		
	П	the drawings:		
		sheets		as originally filed/furnished
		sheets*		
		sheets*		
	\Box			
	\exists	a sequence listing and/or any related table(s) – see Supple	emental Box Relating to Sequence L	asung.
3.	ш	The amendments have resulted in the cancellation of:		
		the description, pages		
		the claims, nos.		
		the drawings, sheets/figs		
		the sequence listing (specify):		
		any table(s) related to sequence listing (specify):		
4.		This report has been established as if (some of) the ame they have been considered to go beyond the disclosure as		
		the description, pages		
		the claims, nos.		
		the drawings, sheets/figs		
		the sequence listing (specify):		
		any table(s) related to sequence listing (specify):		
*	If ite	em 4 applies, some or all of those sheets may be marked "s	uperseded."	

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				ticle 35(2) with regard to novelty, inventive step or industrial applicability; porting such statement	
1.	Statement				
	Novelty	(N)	Claims	3-7, 9	YES
			Claims	1, 2, 8, 10, 11	_ NO
	Inventive	e step (IS)	Claims		YES
			Claims	1-11	_ NO
	Industria	l applicability (IA)	Claims	1-11	_ YES
			Claims		_ NO

- 2. Citations and explanations (Rule 70.7)
 - 1.1 The present report refers to the following documents:
 - D1: WO 98/33979 A (AKZO NOBEL N.V; EKA CHEMICALS AB; FROELICH, STEN; LINDGREN, ERIK; SIKK) 6 August 1998 (1998-08-06)
 - D2: DE 199 52 354 A1 (NOPCO PAPER TECHNOLOGY HOLDING AS, DRAMMEN) 3 May 2001 (2001-05-03)
 - D3: US 6 001 166 A (ETTL ET AL) 14 December 1999 (1999-12-14)
 - D4: EP 1 176 254 A (ATO B.V) 30 January 2002 (2002-01-30)
 - D5: WO 01/88262 A (BAYER CORPORATION) 22 November 2001 (2001-11-22)
 - 1.2 The present invention relates to a solid mixture of a compound from the group of C_{14} to C_{22} alkyldiketenes and starch, wherein the reactive sizing agent and the starch are mixed in the presence of a destructuring agent. The mixture is produced under the influence of shear forces at temperatures of 65 to 250 °C. The melt is then cooled to room temperature. The aqueous dispersions can be used for the internal— or surface sizing of paper.

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 1.3 However, a sizing agent mixture, or sizing agent dispersion, as per claim 1 appears to be known already from D1, D2 and D3 (see D1, claims 1-22, examples 4, 6, 9; see D2, claims 1-9, examples 1-4; see D3, claims 1-8; see also point 4 below). The subjects of the present claims 1 and 2 are therefore not novel over the disclosures of D1 to D3 (PCT Article 33(2)). In addition, it also appears possible to derive the method features of claim 8, and claims 10 and 11, from D1 to D3, and therefore the subjects of these claims do not appear to meet the requirements of PCT Article 33(2) either.
- 1.4 The individual features of the dependent claims do not at present appear to contain any novel and inventive subject matter (PCT Article 33(2) and (3)). A combination of these features could, however, meet the requirements of PCT Article 33(3).

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	No. VI	Certain docu	ments cited					
1.	Certain pub	lished documents	s (Rule 70.10)					
		Applicatio Patent N	on No. No.		Publication date (day/month/year)	Fi (day/i	ling date month/year)	Priority date (valid claim) (day/month/year)
2.	Att	ention .	is drawn	to	document	WO-A-04	022 850.	
2.	Non-writter	n disclosures (Rul	le 70.9)					
							Data	
		Kind of non-writ	tten disclosure		Date of non-writ (day/mont		referring t	of written disclosure to non-written disclosure day/month/year)
		Kind of non-writ	tten disclosure		Date of non-writ (day/mont		referring t	o non-written disclosure
		Kind of non-writ	tten disclosure				referring t	o non-written disclosure
		Kind of non-writ	tten disclosure				referring t	o non-written disclosure
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		Kind of non-writ	tten disclosure				referring t	o non-written disclosure
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		Kind of non-writ	ten disclosure				referring t	o non-written disclosure
		Kind of non-writ	ten disclosure				referring t	o non-written disclosure
		Kind of non-writ	ten disclosure				referring t	o non-written disclosure
		Kind of non-writ	ten disclosure				referring t	o non-written disclosure

Certain defects in the international application

Box No. VII

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The following do	efects in the form or contents of the international application have been noted:
3.	D1, D2, D3, D4 and/or D5 should be acknowledged in
	the description as the closest prior art (PCT Rule
	5.1(a)(i)-(iv)).

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

4.1 The present claim 1 specifies that the reactive sizing agent is mixed with at least one starch in a melt in the presence of a destructuring agent for starch. The destructuring agents in question can, e.g., be water. The exact meaning and function of the destructuring agent is not clear (PCT Article 6).

In addition, it is not clear at present to what extent the destructuring agent can be replaced or not by the emulsifier (see claim 2).

4.2 The exact meaning of the wording "solid mixtures" is at present not clear (PCT Article 6). As is already explained above, D1 to D3 disclose dispersions of starch and C_{12} - C_{22} AKD mixtures. It is also clear that water may be present in the solid mixture as a destructuring agent. However, it is not clear when the mixture becomes "solid". It appears that the difference between a "solid mixture" and a dispersion as per D1 to D3 is only a matter of the amount of water present.